

GRADUATE
STUDIES
IN GEOLOGY



CENTENARY COLLEGE OF LOUISIANA
SHREVEPORT, LOUISIANA

DEPARTMENT OF GEOLOGY AND GEOGRAPHY

PURPOSE

The Master of Science degree in Geology at Centenary College is a non-traditional program developed to meet the educational needs of a predominantly hydrocarbon-based community. The program has a direct focus and does not attempt to cover all aspects of geology. Most area geologists are employed in the Ark-La-Tex. Therefore, to accommodate their educational needs, the geology graduate program is directed toward the origin, distribution, and history of sedimentary rocks and basins. We feel a program with this focus will have a favorable impact and positive influence on the petroleum community in the Shreveport area.

The program is designed for those area geologists seeking to upgrade their technical skills in petroleum geology by obtaining a M.S. degree or by taking selected courses in the program.

The Geology Department is working closely with the Shreveport Geological Society and other professional societies to bring in outstanding speakers and to conduct joint seminars and workshops.

The students who have already been admitted to the graduate program in the Geology Department received their undergraduate training at a wide variety of universities. Some of these schools are Louisiana Tech, Texas-Austin, Duke, Colorado School of Mines, North Carolina, Louisiana State-Baton Rouge, Texas Tech, Arizona State, Northwestern State, Stephen F. Austin State, Baylor, East Texas State, Vanderbilt, Tennessee, Northeast Louisiana, Houston, Arkansas, South Alabama, and Centenary.

ADMINISTRATION

The Dean of the College is the administrative officer responsible for the graduate programs. The Dean and the Graduate Council are charged with the general administration of the programs. The Chairperson of the Department of Geology and Geography is responsible for the day to day administration of the program which includes faculty and student recruiting and student advising. Registration for the program is carried out by the Office of Continuing Education.

The Graduate Council is composed of the following: the Dean of the College, the Dean of the School of Business, the Chairperson of the Department of Geology, the Chairperson of the Education Department, the Registrar, the Vice Chairperson of the Education Policy Committee, and the Chairperson of the Personnel and Economic Committee. All three academic divisions are usually represented among the chairpersons of faculty committees and the members-at-large. It is from these members the Council selects its chairperson for the year.

The Graduate Council is responsible for the admission criteria to graduate programs and the supervision of satisfactory progress toward degrees, and for policies pertaining to personnel, curricula, degree requirements, and finances. Proposals relating to any of these areas may originate with the Dean, members of the Council, or any faculty or administrative officer of the College and should be sent to the Dean and the Chairperson of the Graduate Council. Proposals for new graduate programs come to the Graduate Council with majority approval from the department seeking the program. The Graduate Council submits its recommendations to the Faculty for approval. Graduate academic appeals are made to the Graduate Council.

The Faculty Personnel and Economic Policy Committee and the Graduate Council cooperate in interviewing and recommending new faculty members and in recommendations for promotion and tenure. The Graduate Council receives from each faculty member teaching graduate courses a report yearly in which the Council is apprised of the professor's professional activities relating to graduate program responsibilities, including research and publications.

ADMISSIONS

Admission to a graduate degree program in geology is under the direction of the Chairperson of the Geology Department. All correspondence concerning admission to the Master of Science program in Geology should be sent to the Chairperson, Department of Geology and Geography, Centenary College of Louisiana, P. O. Box 41188, Shreveport, Louisiana 71134-1188, telephone (318) 869-5234, or to the Director of Continuing Education, Centenary College of Louisiana, P. O. Box 41188, Shreveport, Louisiana 71134-1188, telephone (318) 869-5115.

REGULAR ADMISSION

Degree Status. No student pursuing an advanced degree will be considered for regular admission until all of the following are received and evaluated:

1. Completed application form with a \$20 non-refundable application fee. This is a one-time-only charge.
2. Complete official transcript of work completed at each college or university attended.
3. A degree in Geology or a closely related field and a personal interview with the Chairperson of the Department of Geology.

4. Master of Science in Geology students must present a 2.5 composite grade point average on all undergraduate work to be considered for regular admission. In rare circumstances this may be waived if the individual has been an active and productive exploration or production geologist for at least ten years.
5. Admission to a graduate program does not imply admission to candidacy for a graduate degree.
6. A student must have been in good academic standing in all institutions previously attended.

SPECIAL ADMISSION

Outstanding graduating seniors in the final semester of the undergraduate program at Centenary may, with permission of the Dean and the Chairperson of the Department, be admitted to a maximum of six hours of graduate course work. This course work is in addition to all undergraduate work required for the B.S. degree.

CONDITIONAL STATUS

An applicant who does not meet the requirements of a regular graduate student may be granted conditional status by the Chairperson of the Department. The removal of conditional status and continuance in the graduate program are determined by:

1. Completion of regular admission procedures.
2. Completion of twelve semester hours of graduate work.
3. If regular status has not been attained after completing twelve semester hours, a student may not continue to pursue courses until all requirements are met.

NON-DEGREE STATUS

Any person who has earned a bachelor's or master's degree from a regionally accredited college or university and wishes to take a course or courses but is not interested in pursuing another degree must submit the following:

1. Completed application form with a \$20 non-refundable application fee. This is a one-time-only charge.
2. Official transcript from college or university where degree received. Courses completed while one is classified as a non-degree or post-master's student may be considered for application toward a degree at a later time provided that all other requirements have been fulfilled.

ADMISSION TO TRANSFER STUDENTS

An applicant who has attended another graduate school and has earned at least a 3.0 average on all graduate work is eligible to apply for admission to the Graduate Program at Centenary. The transfer student must also meet all admission requirements listed under the regular admission section; furthermore, eligibility for re-admission to the college from which the student has transferred is essential.

An applicant who has attended another graduate school and whose average on all graduate work is below 3.0 but not lower than 2.5, may be eligible for conditional admission to the Centenary Graduate Program by action of the Graduate Council.

TRANSFER OF CREDIT

In individual cases, a student, with the approval of the Chairperson of the Department, may transfer a maximum of six semester hours of graduate credit earned in an accredited college or university with the following provisions:

1. The grade in each course accepted must be "B" or better.
2. Each course must be acceptable to the pattern of student's degree program at Centenary College.
3. The work considered for transfer must have been completed before the student registers in the graduate program.
4. No graduate credit will be allowed for work done by correspondence study.

Under unusual circumstances, a student with the approval of the Chairperson of the Geology Department may petition the Graduate Council to transfer more than six semester hours of graduate credit.

All work on a graduate degree must be completed within eight years of the time the student first enrolls in graduate courses at Centenary College. Extensions to the limitations of time may be requested by petition to the Graduate Council.

GRADUATE FACULTY

O. Roger Berg, Ph.D., University of Oklahoma, Basin Analysis and
Seismic Stratigraphy.

* David B. Bieler, Ph.D., University of Illinois, Advanced Structure
and Geophysics.

* David J. Davies, Ph.D., Texas A & M University, Paleoecology,
Biostratigraphy, and Sedimentology.

* Austin A. Sartin, Ph.D., Southern Methodist University, Carbonate
Environments, Sandstone Depositional Environments, and
Lithostratigraphy.

Nolan G. Shaw, Ph.D., Louisiana State University, Regional Geology.

J. Ronald Sides, Ph.D., University of Kansas, Petroleum Geology.

James R. Turner, M.S., Texas A & M University, Subsurface Geology.

* Full-time Graduate Faculty

MASTER OF SCIENCE DEGREE IN GEOLOGY

1. Prerequisites to Degree Program. Students admitted to graduate study should have a degree in geology or closely related field from an accredited college or university.

2. Requirements for the Master of Science Degree. The Department of Geology and Geography requires 30 graduate course credit hours, six of which will be derived from a thesis reporting the results of an original laboratory or field research problem. All course work, a thesis topic, and the final thesis must be approved by the student's thesis committee. This committee is selected by the student and his/her thesis director and will consist of a thesis director and a minimum of two committee members.

The thesis director must be a member of the full-time Graduate Geology faculty, and at least one of the committee members must be chosen from the full- and part-time graduate faculty of the Department of Geology and Geography. Any committee member not a full- or part-time graduate faculty member at Centenary College must be approved by the Graduate Council.

Before initiating thesis work, the candidate must have maintained a grade point average of 3.5 in at least 12 hours of graduate-level courses. To complete the requirements, the candidate must submit an acceptable thesis and pass a comprehensive oral examination based primarily on the defense of his/her thesis.

With the advanced approval of the Chairperson of the Geology Department, a student may choose to complete twelve semester hours of course work instead of the six hours of thesis credit. This alternative to the thesis may be used by those few graduate students who with the consultation of the Geology faculty feel that the 36 semester course hours

would be more beneficial to their graduate program. A three-semester hour independent study is recommended for those students not pursuing a thesis. A student not pursuing a thesis will be expected to pass a comprehensive oral examination.

3. Admission to Candidacy. At the completion of 12 graduate hours, a student may be admitted to candidacy to the degree, if he/she has satisfied the following requirements:

- a) Attained at least a 3.25 graduate GPA on all work at Centenary in Geology;
- b) Removed all prerequisites to candidacy imposed by the Geology Department; and
- c) Obtained the recommendation of the Geology Department.

4. Procedure for Thesis Preparation. The student pursuing a graduate degree with thesis should follow the procedure shown below:

- a) Choose a thesis director and committee members. Register for thesis research (GEOL 589). Maintain a thesis advisory committee consisting of a thesis director and at least two committee members.
- b) Complete the thesis proposal and submit it to the advisory committee. The proposal must be approved by the thesis committee before the student is permitted to enroll in thesis writing (GEOL 590).
- c) Conduct the study and complete the writing under the supervision of all members of the advisory committee.
- d) Present the final draft of the thesis for inspection to the Chairperson of the Department of Geology and Geography. The Chairperson's inspection must be made before multiple copies of the thesis are made.

- e) Include in the final manuscript of the thesis and in each of the multiple copies a thesis abstract of not more than 200 words.
- f) Apply and take thesis defense examination. Following the satisfactory completion of the thesis defense examination, have all copies of the thesis signed by all members of the advisory committee and by the Dean of the College.
- g) Pay the thesis binding and microfilming fees at the Library.
- h) Submit to the Chairperson of the Department of Geology and Geography five (5) copies of the final manuscript as previously approved by the advisory committee. The original copy of the thesis is for Library reserve; a second copy is for Library circulation; a third copy is for the thesis director; a fourth copy is for the Department of Geology and Geography; and a fifth copy is for the student.

COURSE OFFERINGS

- GEOL 515 Carbonate Environments 3 hrs.
A study of the origin, distribution, lithification, and diagenesis of carbonate rocks. The first part of the course will emphasize the description and classification of carbonate rocks based on thin-section analysis. The second part will be concerned with the principles of carbonate sedimentation and a synthesis of depositional patterns from examples of carbonate facies.
- GEOL 520 Sandstone Depositional Environments 3 hrs.
The study of the origin, distribution, lithification, and diagenesis of sandstones.
- GEOL 525 Paleoecology 3 hrs.
A survey of the principles and concepts used to reconstruct the life habits of fossil organisms and ancient biological communities.
- GEOL 530 Micropaleontology 3 hrs.
Study of important microfossils found throughout the geologic column and methods of applying this data.
- GEOL 535 Advanced Stratigraphy 3 hrs.
Study of stratigraphic concepts including the principles of facies analysis and sedimentary basin analysis.
- GEOL 536 Seismic Stratigraphy 3 hrs.
Study of the fundamentals and application of stratigraphic interpretation of seismic data.
- GEOL 540 Sedimentology 3 hrs.
Study of sedimentary materials, sedimentary processes, and the products of sedimentation.
- GEOL 545 Petroleum Geology 3 hrs.
Study of the occurrence, origin, and accumulation of petroleum.
- GEOL 550 Geochemistry 3 hrs.
Chemistry of geologic processes and the geochemical cycles of selected elements.
- GEOL 555 Sedimentary Petrography 3 hrs.
Study of sedimentary rocks with emphasis on their description and classification in thin-section analysis and the relationship to their depositional environments.
- GEOL 560 Hydrology 3 hrs.
Principles of occurrence and movement of fluids beneath the earth's surface and the influence of geologic situations on its behavior.

GEOL 565 Subsurface Geology 3 hrs.
Reconnaissance and evaluation techniques used to develop economic products. Includes geophysical, geochemical, well logging, and other techniques used to develop prospects.

GEOL 566 Basin Analysis 3 hrs.
Study of the stratigraphy, structure, and sedimentology of the evolution of sedimentary basins.

GEOL 575, 576 Selected Topics 3, 3 hrs.
Designed for those topics not offered on a regular basis in the curriculum.

GEOL 581, 582 Independent Study 3, 3 hrs.
Individual in-depth studies designed to increase the student's knowledge of some aspects of geology as related to their field of interest.

GEOL 589 Thesis Research 3 hrs.
Research for thesis. Planned and initiated at least two semesters before the thesis is to be completed.

GEOL 590 Thesis Writing 3 hrs.
Writing of thesis. The research project of this course must be initiated at least one semester before registration in order that the thesis research be carried out over a period of not less than two semesters. A student may not register for GEOL 590 until a thesis prospectus has been approved.

